

REMARKS

Claims 55-64, 67 and 70-73 are pending in the application.

Claims 62-64 and 67 were previously withdrawn from consideration.

Claims 56-61 and 70-73 are rejected.

Rejections Under 35 USC 103

Claims 56-61 and 70-73 are rejected under 35 U.S.C. 102(b) as being unpatentable over US Patent No. 2,727,598 to Mitchell in view of US Patent No. 3,989,113 to Spring et al. Applicant traverses the rejection of claims 56-61 and 70-73 as improper because the rejection fails to teach each and every element of the claims.

The Mitchell '598 patent does not teach, or suggest, each and every element of independent claims 56, 60 and 70 that includes the requirement of adjusting flow restriction with a valve to control the timing and shut off. Mitchell teaches a spring loaded valve in mechanical communication that is thrust closed by impact from the workpiece at time zero, not the adjustment of a flow restrictor. (See Col. 5, lines 43-65) Mitchell teaches “**by threaded adjustment of the ring 52 the tension of the spring 48 against the inertia ring 46 may be varied** so as to vary the desired degree of tightness at which **the torque limiting device may become operable**” (emphasis added) See Col. 5, lines 16-20. Therefore, Wallace teaches away from the method as claimed by the Applicant. The '598 patent does not suggest or disclose adjusting the flow restriction so as to control the output.

The examiner agrees with the aforementioned description of the art and to address the acknowledged deficiencies of Wallace the reference is combined with the Spring '113 patent that is alleged to show “valve in fluid communication with the tool.” However, while the valve is in communication with the tool the '355 patent still fails to address the deficiencies in teaching of the '598 patent reference which requires “adjusting the flow restriction of the valve to control the output of the

modular control apparatus” that includes controlling timing and motor shut off. The Applicant’s claimed methods include limitations drawn toward adjusting the restriction and flow with a valve to control the output of the modular apparatus thereby controlling torque and timing to shutoff NOT to directly controlling the flow to the motor.

The Spring ‘113 control valve teaches in column 4, line 13 that “*the control valve the body of the valve will partially cover the forward outlet port 35 leading to the forward side of the motor. Accordingly, the volume air flow from the inlet port 33 around the groove 34 will be restricted in passing through port 35, thus resulting in a limited torque being applied to the work in the forward direction.*” Thus the valve directly restricts flow to the motor and is **NOT** controlling the flow of the output of the control modulus claimed by the applicant. The combination of the Spring ‘113 valve with the mechanism of the Mitchell ‘598 patent still fails to teach a valve in control of the OUTPUT of a modular control apparatus.

The combination of the Mitchell and Spring references would **STILL** provide a wrench having a modular control apparatus where shutoff and timing would be controlled by the tensioning of the spring unless prohibited hindsight reasoning was used. The addition of a valve that controls the peak motor torque by restricting flow to the motor would fail to provide for a shutoff when peak torque was achieved unless the inertia ring was still present. The removal of the inertia ring prevents the tool from being shutoff after a determined torque and time, and therefore its presence is still required. The combination is improper because the actions of the components are contrary to each other and teaches away from the invention in claims 56, 60 and 70.

The applicant respectfully request reconsideration and removal of the rejection of claims 56, 60 and 70 in view of the above deficiencies. In that claims 57-61 and 71-73 depend from allowable independent claims 56, 60 and 70 all claims should be allowed.

Claims 56-61 and 70-73 are rejected under 35 U.S.C. 102(b) as being unpatentable over US Patent No. 3,989,113 to Spring et al in view of US Patent No. 4,434,858 to Whitehouse. Applicant traverses the rejection of claims 56-61 and 70-73 as improper because the rejection fails to teach each and every element of the claims.

With regard to the Spring '113 patent there is no modular control apparatus at (13) as indicated by the examiner, but to the contrary the reference actually teaches at column 2, line 21 "*supported in the housing adjacent the inner face of a cap or cover section 13 of the housing is a motor assembly 14 of a conventional reversible rotary air driven vane type.*" There is no modular assembly of any nature present in the Spring '113 patent. As discussed above the "*valve (27) in fluid communication with the tool (10), aligning, attaching (See Fig. 1) and adjusting the flow restriction with the valve (27) to control the output of the modular control (see col. 3, lines 31-43)*" as alleged is contrary to the actual operation of the devices. The Spring '113 patent at Col. 3, lines 31-43 actually teaches:

Adjustable means, as will now be described, is provided to reduce or adjust the effective length of the control valve so as to enable it to obtain a limited or less than its full forward position, in which limited position a restricted volume air flow will be applied to the forward side of the motor and, as a consequence, a lesser or limited torque will be applied to the work. This limited or less than full torque application is desired in various situations, such as when it is desired to apply a limited or less than full torque in tightening the lug bolts in automotive disc brake applications. This adjustable means includes the knob 31 and its cooperative association with the control valve 27.

The control valve of the Spring '113 patent valve teaches DIRECT restriction of airflow reducing motor torque, but not controlling the output of the modular control apparatus, which is NOT present in the Spring reference. The absence of the modular control apparatus does not allow for controlling of the torque or motor shut off as admitted by the examiner. The Whitehouse '858 patent is combined with the Spring '113 patent to allegedly teach the feature of motor shutoff.

The Whitehouse '858 patent reference teaches at column 4, line 54 that "*for quick and easy adjustment of the stall pressure and accordingly the stall torque to meet the characteristics of*

different applications of tool 10, the biasing force of springs 72, 74 may be adjusted to a desired compression setting by the above mentioned lock mechanism 78.” (Emphasis added) The Whitehouse ‘858 patent teaches the adjustment of spring tension to control the stall pressure (shutoff) of the motor. The adjustment of the valve taught by the Spring ‘113 patent would have no effect on the “adjustment of the stall pressure” of the ‘858 patent.

The applicant’s independent claim 56 requires “*adjusting the flow restriction with the valve to control the output of the modular control apparatus.*” Independent claim 60 requires “*adjusting the flow rate of a valve by setting a valve position to control the pneumatic modular control apparatus*” where the apparatus is “*configured to shut off air flow.*” Independent claim 70 requires “*providing a modular control apparatus having an alignment mechanism for aligning the modular control apparatus with a tool, wherein said apparatus is configured to shut off air flow to the tool after a selected time that torque is being applied by the tool controlled by a valve in fluid communication with the tool*” where “*varying the flow restriction of the valve to control the output of the modular control apparatus.*” Independent claims 56, 60 and 70 requires the valve to be adjustable to control the torque and shut off the tool, which the combination of the Spring and Whitehouse references fails to teach. The combination of the teachings of the Spring ‘113 patent with the Whitehouse ‘858 patent would provide a tool having the NON-modular control apparatus of the ‘858 patent where the time and torque shutoff is adjusted by changing the spring tension. The teaching of the Spring ‘113 patent would place a valve between the air source and the motor to limit the air pressure to the motor to reduce torque BUT adjustment of the valve would have no effect on either the timing or the torque shut off to the tool. The failure to address the required limitations of the adjustment of the valve acting upon the control apparatus output to determine shutoff and timing thus fails to teach each and every element of the claims. The applicant respectfully request reconsideration and removal of the rejection of claims 56, 60 and 70 in view of the above deficiencies. In that claims 57-61 and 71-73 depend from allowable independent claims 56, 60 and 70

all claims should be allowed.

CONCLUSION

Based on the preceding proposed amendments, Applicant respectfully submits that claims 56-61 and 70-73 along with the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes anything further would be helpful to place the application in better condition for allowance, Applicant invites Examiner to contact Applicant's representative at the telephone number listed below.

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Respectfully submitted,

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